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PATENT

Attorney Docket No.: 015114-068600US

Client Ref. No.: A1177

TOWNSEND and TOWNSEND and CREW LLP

By: 

Andrea S. Beck

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Michael D. Hutton

Application No.: 10/718,978

Filed: November 20, 2003

For: TECHNIQUES FOR USING EDGE MASKS TO PERFORM TIMING ANALYSIS

Customer No.: 26059

Confirmation No. 2723

Examiner: Stacy Whitmore

Technology Center/Art Unit: 2825

AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Office Action mailed September 9, 2005, please enter the following amendments and remarks:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 9 of this paper.

Appl. No. 10/718,978
Amdt. dated March 9, 2006
Reply to Office Action of September 9, 2005

PATENT

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

- 1 1. (Cancelled).
- 1 2. (Currently Amended) ~~The method of claim 1 further comprising:~~ A
2 method for performing timing analysis on a user design that has been placed on a programmable
3 integrated circuit, the method comprising:
4 generating edge masks to annotate edges in a graph that represents at least a
5 portion of the user design, the edge masks indicating whether a source or destination point is
6 reachable from a corresponding one of the edges;
7 performing at least one depth first search along a time critical path in the graph
8 between the source and the destination points, the at least one depth first search being prevented
9 by the edge masks from analyzing paths that do not lead to the source point or the destination
10 point;
11 calculating slack and slack ratio values for edges in the time critical paths; and
12 if delay along any of the time critical paths exceeds the user timing constraint,
13 modifying placement of the user design within the programmable integrated circuit using the
14 slack and the slack ratio values.
- 1 3. (Original) The method of claim 2 wherein generating the edges masks
2 further comprises generating a first type of edge mask that represents reachability from the
3 source points in a backwards direction, and a second type of edge mask that represents
4 reachability to the destination points in a forward direction.


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PTO/SB/22 (12-04)

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)		Docket Number (Optional) 015114-068600US																									
FY 2005 <i>(Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).)</i>																											
Application Number 10/718,978		Filed November 20, 2003																									
For TECHNIQUES FOR USING EDGE MASKS TO PERFORM TIMING ANALYSIS																											
Art Unit 2825		Examiner Stacy Whitmore																									
<p>This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.</p> <p>The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 15%; text-align: center;"><u>Fee</u></th> <th style="width: 20%; text-align: center;"><u>Small Entity Fee</u></th> <th style="width: 25%;"></th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> One month (37 CFR 1.17(a)(1))</td> <td style="text-align: center;">\$120</td> <td style="text-align: center;">\$60</td> <td style="text-align: center;">\$ _____</td> </tr> <tr> <td><input type="checkbox"/> Two months (37 CFR 1.17(a)(2))</td> <td style="text-align: center;">\$450</td> <td style="text-align: center;">\$225</td> <td style="text-align: center;">\$ _____</td> </tr> <tr> <td><input checked="" type="checkbox"/> Three months (37 CFR 1.17(a)(3))</td> <td style="text-align: center;">\$1020</td> <td style="text-align: center;">\$510</td> <td style="text-align: center;">\$ 1020</td> </tr> <tr> <td><input type="checkbox"/> Four months (37 CFR 1.17(a)(4))</td> <td style="text-align: center;">\$1590</td> <td style="text-align: center;">\$795</td> <td style="text-align: center;">\$ _____</td> </tr> <tr> <td><input type="checkbox"/> Five months (37 CFR 1.17(a)(5))</td> <td style="text-align: center;">\$2160</td> <td style="text-align: center;">\$1080</td> <td style="text-align: center;">\$ _____</td> </tr> </tbody> </table> <p><input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.</p> <p><input type="checkbox"/> A check in the amount of the fee is enclosed.</p> <p><input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.</p> <p><input type="checkbox"/> The Director has already been authorized to charge fees in this application to a Deposit Account.</p> <p><input checked="" type="checkbox"/> The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number <u>20-1430</u>. I have enclosed a duplicate copy of this sheet.</p> <p>WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.</p> <p>I am the</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><input type="checkbox"/> applicant/inventor.</p> <p><input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96).</p> <p><input checked="" type="checkbox"/> attorney or agent of record. Registration Number <u>48,717</u></p> <p><input type="checkbox"/> attorney or agent under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____</p> </div> <div style="width: 45%; text-align: right;"> <p><u>3/9/06</u> Date</p> </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 45%;"> <p style="text-align: center;"> Signature</p> <p style="text-align: center;">Jonathan M. Hollander, Reg. No. 48,717 Typed or printed name</p> </div> <div style="width: 45%; text-align: right;"> <p style="text-align: center;">415-576-0200 Telephone Number</p> </div> </div> <p style="font-size: small; margin-top: 10px;">NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.</p> <p><input checked="" type="checkbox"/> Total of <u>2</u> forms are submitted.</p>					<u>Fee</u>	<u>Small Entity Fee</u>		<input type="checkbox"/> One month (37 CFR 1.17(a)(1))	\$120	\$60	\$ _____	<input type="checkbox"/> Two months (37 CFR 1.17(a)(2))	\$450	\$225	\$ _____	<input checked="" type="checkbox"/> Three months (37 CFR 1.17(a)(3))	\$1020	\$510	\$ 1020	<input type="checkbox"/> Four months (37 CFR 1.17(a)(4))	\$1590	\$795	\$ _____	<input type="checkbox"/> Five months (37 CFR 1.17(a)(5))	\$2160	\$1080	\$ _____
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MAR 09 2006

Atty Docket No. 015114-068600US

PTO FAX NO.: 1-571-273-8300

ATTENTION: Examiner Stacy Whitmore

Group Art Unit 2825

OFFICIAL COMMUNICATION
FOR THE PERSONAL ATTENTION OF
EXAMINER Stacy Whitmore

CERTIFICATION OF FACSIMILE TRANSMISSION

I hereby certify that the following documents in re Application of Michael D. Hutton, Application No. 10/718,978, filed November 20, 2003 for TECHNIQUES FOR USING EDGE MASKS TO PERFORM TIMING ANALYSIS are being facsimile transmitted to the Patent and Trademark Office on the date shown below.

Documents Attached

1. Transmittal-1 Page
2. Petition for Extension of Time-In Duplicate
3. Amendment-9 Pages

Number of pages being transmitted, including this page: 13

Dated: March 9, 2006


Andrea S. Beck

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Fax: 415-576-0300
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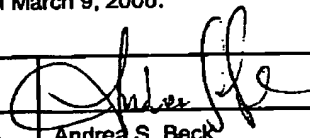
MAR 09 2006

PTO/SB/21 (09-04)

TRANSMITTAL FORM <small>(to be used for all correspondence after initial filing)</small>	Application Number	10/718,978
	Filing Date	November 20, 2003
	First Named Inventor	Hutton, Michael D.
	Art Unit	2825
	Examiner Name	Stacy Whitmore
	Attorney Docket Number	015114-068600US
Total Number of Pages in This Submission		

ENCLOSURES (Check all that apply)		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input checked="" type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input checked="" type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/ Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation <input type="checkbox"/> Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input type="checkbox"/> Other Enclosure(s) (please identify below):
Remarks: The Commissioner is authorized to charge any additional fees to Deposit Account 20-1430.		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT			
Firm Name	Townsend and Townsend and Crew LLP		
Signature			
Printed name	Jonathan M. Hollander		
Date	3/9/06	Reg. No.	48,717

CERTIFICATE OF TRANSMISSION/MAILING		
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Signature		
Typed or printed name	Andrea S. Beck	Date 3/9/06

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